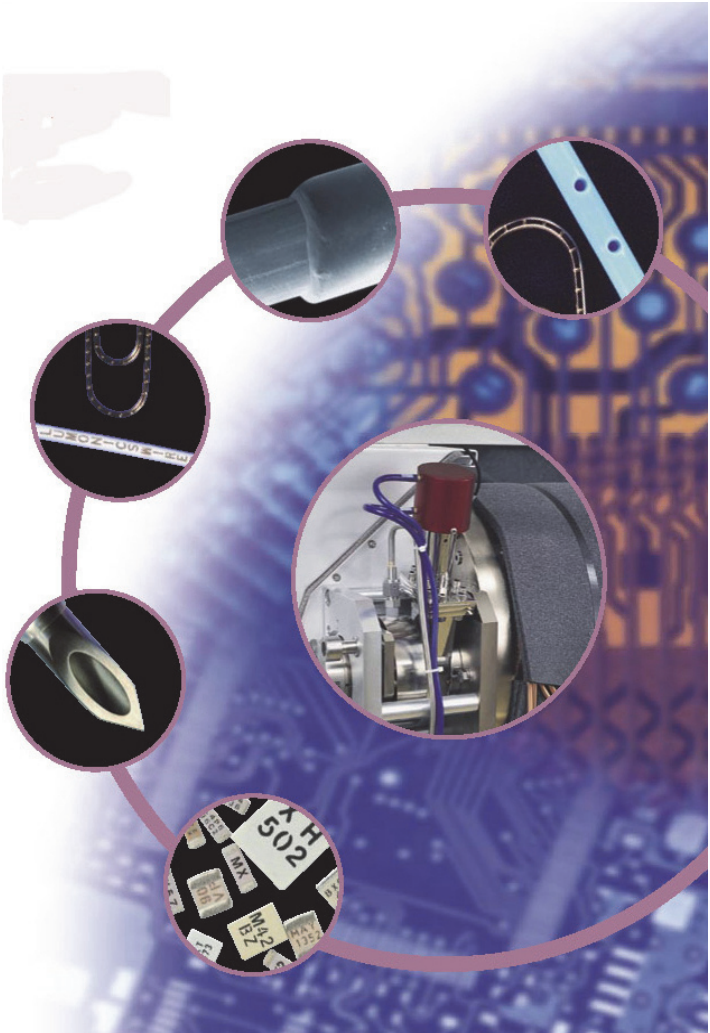
IPEX™ 840 / 860 SERIES

Industrial Excimer Lasers

Industrial excimer lasers for precision applications in electronics, telecommunications, semiconductor, medical devices and pulsed laser deposition

- **ICON™ (Integrated Ceramic on Nickel) technology for ultimate gas lifetimes and lowest cost of operation**
- **EasyClean automated optics seals to retain gas fill and reduce downtime during optics maintenance**
- **Optional High-Brightness optics for applications requiring low beam divergence or extended coherence length**
- **High-stability optics mounts for ultimate beam pointing accuracy**
- **Simple integration into industrial processing systems**



LightMachinery
Excellence in lasers and optics

IPEX™-840 / 860 Series Industrial Excimer Lasers

Originally developed by Lumonics and now offered by LightMachinery, the ***IPEX-840/860 Series*** excimer lasers deliver the performance and reliability required for a wide range of advanced, high duty-cycle industrial manufacturing applications in the electronics, semiconductor and medical device industries.

With ICON™ (Integrated-Ceramic-On-Nickel) technology, LightMachinery ***IPEX-Series*** lasers offer an exceptionally low cost of ownership and superior optical performance. High-Brightness ("Unstable Resonator") optics are available for applications that demand long-path low beam divergence (e.g. Lidar), extended coherence length (e.g. FBG manufacturing) and improved focusing.

Easy to use, simple to service, and economical to operate, ***IPEX-840/860 Series*** lasers combine the benefits of high precision excimer processing with the lowest total cost of ownership and highest uptime on the market today.

Features

- ICON laser tube
- EasyClean automated optics seals
- Advanced optic mounts
- Keyed optics (1)
- StabiLase energy control
- Soft preionisation (2)
- Internal gas filtration (3)

(1) U.S. Patent 5,237,583
(2) U.S. Patent 5,081,638
(3) U.S. Patent 5,319, 663

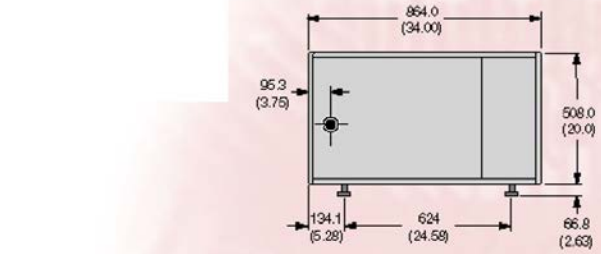
Benefits

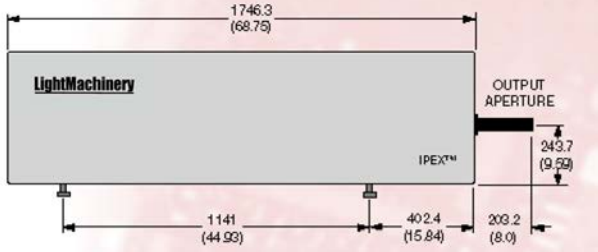
- Extended gas lifetime, long replacement intervals, low operating cost
- Simplifies optical maintenance, retains gas fill and passivation
- Delivers 200 microradian pointing stability
- No realignment required after cleaning or replacing optics
- Fast, precise energy stabilization in internal, burst and external trigger modes
- Excellent energy stability, better than 1.0% (1-σ, KrF)
- Removes particulates and maintains optics cleanliness

Specifications

		ArF	KrF	XeCl	XeF
Wavelength (nm)		193	248	308	351
Stabilised Pulse Energy (mJ) at maximum repetition rate	Ipex-840 Series	150	400	250	225
	Ipex-860 Series	200	600	500	300
Maximum Pulse Energy (mJ) at low repetition rate	Ipex-840 Series	230	450	300	275
	Ipex-860 Series	250	700	600	350
Stabilised Average Power (W)	Ipex-848	30	80	50	45
	Ipex-846	15	40	25	22
	Ipex-844	6.0	20	12	11
	Ipex-842	3.0	10	6.0	5.5
	Ipex-868	20	60	50	30
	Ipex-866	10	30	25	15
	Ipex-864	5.0	18	10	9.0
	Ipex-862	2.5	9.0	5.0	4.5
Maximum Repetition Rate (pps)	Ipex-848	200	200	200	200
	Ipex-846	100	100	100	100
	Ipex-844	40	50	50	50
	Ipex-842	20	25	25	25
	Ipex-868	100	100	100	100
	Ipex-866	50	50	50	50
	Ipex-864	25	30	20	30
	Ipex-862	12	15	10	15

Pulse Duration (ns) FWHM, nominal)		12-20
Beam Dimensions (mm) (V x H, nominal)	Ipex-840 Series	12 x 26
	Ipex-860 Series	12 x 28
Beam Divergence (mrad) (V x H, nominal)	Ipex-840 Series	1 x 3
	Ipex-860 Series	1 x 3





Dimensions in mm (inches)

Facilities

Electrical:	
8X8 models	3-phase, 208 V or 400 V, 4.5 kW, 50 or 60 Hz
8X6 / 8X4 / 8X2 models	Single-phase 200 - 240 V, 2.5kW / 1.5 kW / 1 kW, 50 or 60 Hz
Cooling water:	8x8 & 8x6 models: 10 liters / minute, 5°-20°C, 40-60 psig 8x4 & 8x2 models: 5 liters / minute, 5°-20°C, 40-60 psig
Laser gases:	Ar, Kr or Xe rare gas, F_2 or HCl halogen gas (diluted), Ne and He buffer gases; or Pre-mixed gas. Compressed air or nitrogen (for optics gate valves & beam shutter)
Shipping Weight:	8x8 & 8x6 models: 570 kg 8x4 & 8x2 models: 550 kg

Specifications are subject to change. Please consult LightMachinery for latest information.

www.lightmachinery.com

LightMachinery

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